EXHIBIT A

TO DECLARATION OF DALE BELMAN IN SUPPORT OF INTERVENOR LOCAL 265'S MOTION FOR SUMMARY JUDGMENT

ACI V. CITY OF CINCINNATI

CASE NO. 1:14-CV-00450-MRB

REPORT OF DALE BELMAN, PH.D.

This report has been submitted by Professor Dale Belman. Professor Belman earned his Doctorate in Economics from the University of Wisconsin Madison in 1986. He has been a member of the faculty of the School of Human Resources and Labor Relations of Michigan State University since 2000. Prior to that, he was a member of the Economics Department of the University of Wisconsin Milwaukee for 15 years. Professor Belman has an extensive record of publication on construction issues in peer-reviewed journals, books and monographs on construction. He served as the chairman of the Construction Economics Research Network (CERN), a National Institute of Occupational Safety and Health (NIOSH) supported network of social scientists engaged in research on construction. He is currently President of the Institute for Construction Economics Research, a private non-profit that works with industry stakeholders on employment and economic issues confronting the construction industry. Professor Belman was recently recognized by Princeton University with the Bowen Award for the book which made the most important contribution toward understanding the problems of industrial relations, labor market policies and the evolution of labor markets and public policies. His vitae is attached as **Exhibit I**.

Opinion:

I have been asked to address whether

> "Is it customary for owners in the private sector to consider factors other than cost in assessing construction bids, such as the training requirements and other factors set forth in the Cincinnati Responsible Bidder Ordinance that apply to Greater Cincinnati Water Works contracts [Cincinnati Municipal Code, Chapter 320]*?* If so, how do private sector owners compare to or differ from public sector owners, when acting as owners as opposed to governing bodies, in balancing cost versus other considerations?"

Based on my knowledge of the industry, private sector owners who have construction needs similar to the Greater Cincinnati Water Works consider factors other than cost in assessing bids and these factors can include safety performance, safety training and increasingly, training for craft employees. Private sector owners who, similar to the Greater Cincinnati Water Works, undertake construction projects for their own use are concerned with factors beyond the bid price for a project. This approach reflects a purpose of minimizing long term costs of a construction project when bid price is only one factor among many which affect the final capital costs, operation and operating costs of a construction project.

The Issue:

The private market for construction is very large, accounting for about six percent of annual U.S. Gross Domestic Product. Just as there are many types of construction, there are many types of construction owners with different purposes and needs. There are residential and business developers who sell the houses, apartments, offices or malls to individuals or businesses during or after the completion of construction. There are also business owners, particularly large industrial owners and utilities, who will use the offices, plants, or facilities for themselves. This latter group is

situated most similarly to the Greater Cincinnati Water Works, as they build for themselves and have concerns with cost, quality, timeliness and operability similar to those of the Greater Cincinnati Water Works.

Large industrial firms and private utilities provide the best private sector comparator to the needs and choices of a public utility such as the Greater Cincinnati Water Works. My discussion of whether private sector owners consider factors other than cost in assessing construction bids will focus on owners, mainly large industrial concerns and utilities, who use the facilities they have constructed, rather than sell their projects during or after construction.

Low Bid vs. Best Value Contracting:

There are many different approaches to contracting for construction services. The typical sequence for a large project would be for the owner to announce the project, make the plans and specifications available to construction firms and establish a date on which bids would be submitted. Bids would need to include not just a price but also information needed to establish the bidders' credentials and capacity to complete the project as well as detailed information about how the bidder would address project issues. Owners frequently have pre-bid meetings for large projects in which they detail project requirements and review issues associated with the project. Construction firms provide their bids, typically sealed, on the specified date. The owner then reviews the bids and, if all goes well, selects the firm or consortium, for the project. The owner and construction firm will then work together to further develop the terms of the bid and establish a final price for the project. The history of any given bid will involve protracted negotiations and discussions, but this brief description of the bidding system provides a high level view of the process.

Although the bid price for a project is important to all construction owners, it is far from the only consideration in determining the contractor(s) who will be chosen for a project. For example, Intel greatly restricts the companies who are allowed to submit bids on projects because the firm believes that it will do better, given its construction needs, by working with a defined group of firms which understand Intel's requirements[1]. Other firms may consider contractors' prior experience with specific types of work, their prior experience with that contractor, safety performance, construction related litigation that the contractor has been involved with and/or ability to access an appropriately trained workforce in a timely fashion. The public sector has been almost unique in its history of limiting the consideration of bids to their cost and the ability to obtain bonding. In this it deviates greatly from similarly placed private sector owners who consider many criteria to assess construction bids.

Put most straightforwardly, if best value contracting might be simplified to mean that the owner places considerable importance on contractor and project characteristics beyond bid price and whether the contractor is able to obtain bonding, then best value contracting is common among owners who intend to use the projects themselves.

[1] **Exhibit II** includes Intel's listing of general contractors who it uses for construction projects and an Intel publication on its safety requirements for construction firms working on Intel projects.

Preliminary Issues with Respect to Owner Labor Force Policies:

Owners who want construction contractors to implement particular labor force policies, such as investment in training, face differences between working with signatory contractors, those who are parties to collective bargaining agreements with local building trades unions, and non-signatory contractors, those who use an unrepresented craft labor force. There are no "standard" labor force policies among non-signatory contractors. Some provide extensive training and benefits, others provide no training and cash wages. Under these circumstances, if an owner wants non-signatory contractors to follow particular labor force policies such as the provision of health care benefits, craft training or a safety program, the owner has to specify those conditions in the bid documents and the contract with the construction firm to assure that they will be followed.

In contrast, when an owner requires the use of signatory contractors, they are assured that contractors at least meet the terms and conditions of the collective bargaining agreement. Because of the terms and conditions of the collective agreement, craft workers on the project will be journeymen or apprentices, will have completed basic safety training such as an OSHA 10 hour course and, if they have not completed their apprenticeship, will be enrolled in the apprenticeship program for their trade. Craft workers will also participate in health and retirements systems. Even if the owner has no apprentices, they will be paying a fixed fee per hour into an apprenticeship fund to support craft training in that region. The owner who is interested in whether a contractor follows desirable labor force policies only needs to require the use of signatory contractors to achieve many of the labor policies which would need to be specified if non-signatory contractors are used for the construction work.

Owners who choose to use signatory firms use may decide to modify the terms and conditions of the collective bargaining agreements that apply to their project. This is done through a Project Labor Agreement (PLA) or Community Benefits Agreement (CBA) with the local labor council or by becoming signatory to a national agreement such as the General Presidents Agreement or the National Maintenance Agreement.

Given the differences in the methods used by owners in establishing labor policies for craft labor on their construction projects between using the signatory and non-signatory contractors, I will discuss the practices with respect to non-signatory employers and then with respect to signatory employers.

Owners Using Non-Signatory Employers:

Determining the extent to which owners require particular labor policies of non-signatory employers is challenging as the non-signatory sector is fragmented and there is limited information on the terms and conditions which owners require of contractors. Much of the effort to improve employers' performance with respect to labor policies originate in the Construction Users Roundtable (CURT). CURT is a coalition of large industrial firms and utilities which provides a forum for discussion of common issues, for developing policies to address these issues and collectively implementing these policies. In its own words:

> *The Construction Users Roundtable® was founded by - and is driven by - many of the largest and most successful construction owners in the United States. CURT® helps*

owners achieve the most productive use of every capital dollar; and provides the global industry a strong, singular voice to help them effect positive, meaningful change and improvements.

CURT® benefits its members & industry

- *Recommendations to create and maintain a zero-based safety culture*
- *Solutions to save real money on project labor costs*
- *Innovations to manage and mitigate project labor risks*
- *Practices to improve quality and savings in project execution*
- *Networking and connectivity*

The primary purpose of CURT® is to create competitive advantage for construction owners. CURT® helps make the industry safer, promotes overall cost effectiveness and productivity, and improves the way construction is planned, managed, justified and executed. CURT® accomplishes this by leveraging the value, capability and best practices of its members, providing aggressive leadership on those business issues that promote excellence in the creation of capital assets. CURT® is constantly searching for and implementing ways to better the industry by helping its members achieve the best possible results. The one unique, foundational CURT® value identified by owners is the networking and connectivity that helps owners work together to develop solutions, solve problems, and share knowledge.[2]

CURT counts among its members a number of the largest industrial and utility companies including the Boeing Company, Abbott Labs, DTE Energy, the Dow Company, Sandia Laboratories, ExxonMobil Chemical, Honeywell, Intel, the Procter and Gamble companies **(Exhibit III)**.[3]

CURT has been involved in workforce development issues since early in the last decade. Safety efforts have included the development of educational materials to support owners' efforts to upgrade safety performance on their construction sites, the development and implementation of tools for measuring construction safety performance and the sharing of that information among CURT members through the safety benchmarking portal. Prior contractor safety performance and safety programs are part of the pre-qualification suggested by CURT and have been adopted by some CURT members. For example, a 2003 presentation by Air Products on Contractor Pre-qualification before the CURT User Practices Workshop in 2003, specifically lists safety performance standards and information on contractors safety focus including training programs, incident reporting and management structure and commitment as among the pre-qualification requirements for contractors. When contractors do not meet these requirements, Air Products requires additional efforts including full time site safety supervision on-site by Air Products or contractor, increased audit frequency, evidence of a strong improvement trend and detailed analysis of contractors' statistics and safety programs.

[2] http://www.curt.org/
[3] http://www.curt.org/Membership-Roster.aspx

CURT's Construction Owners Safety Blueprint, (R-807, December, 2004 – **Exhibit IV**), defines CURT and CURT members' approach to assuring safety on the construction site. The document is very detailed, discussing CURT's philosophy, why site safety is important and why it is to be treated as a "business deliverable" by contractors; how the contract between the owner and employer should be crafted to establish performance, behavior and deliverables; the role played by the owner project team in creating safety culture; the inclusion of plant or site safety rules, applicable safety procedures and contractor orientation requirements in bid documents; validation of worker safety training; and ensuring contract compliance with respect to safety along with multiple other topics. In brief, this document is a blueprint for establishing rigorous standards, supported by contractual terms and conditions and ongoing owner supervision, of craft workforce safety programs including training programs.

Although the need for substantial increases in craft training have been recognized by CURT and its predecessor organization, the Business Round Table, for more than thirty years, positive efforts by owners to increase craft training are more recent than the safety efforts.[4] In addition to a number of studies of training deficiencies and needs, CURT has recently deployed the Construction Workforce Development Assessment (CWDA) as a tool to measure construction employers programs and efforts in safety and training, along with other areas **(Exhibit V).** CWDA is an online tool which collects information about construction contractors' capacities, programs, methods and performance which contractors complete and submit to CWDA. This tool, which many CURT members require bidders to complete to have their bid considered, measures contractor performance on training and safety among other factors; includes third party audits of data entries, and grades the contractors on their performance on an "A" to "F" scale. Although contractors are not required to implement specific safety and training programs, the approach of pushing contractors to do this by explicitly measuring their performance is part of the intent of the CWDA. **(Exhibit VI** includes studies by CURT or citing CURT studies of craft worker shortages**)**

The winter 2014 issue of *The Voice*, CURTs magazine (pages 26 – 27, **Exhibit VII**), discusses the CWDA and provides keys points about the program and its purpose:

1. Was developed by NCCER (sic: the National Center for Construction Education and Research) in cooperation with CURT with input from stakeholders, including ABC, AGC and organized labor.
2. Allows owners to consider workforce development when selecting a contractor and helps them identify effective contractor craft training programs.
3. The CWDA process begins when contractors subscribe online to participate in the assessment. There are three types' assessments—one tailored to construction managers, one for self-performing general or prime contractors and one for subcontractors.
4. By publicizing their CWDA results, contractors can prove to job-seekers that their company is committed to workforce development and training for their employees.

[4] Safety training and skills training are not inherently distinct. Most skills training includes a safety component. Apprenticeship skills training, along with other craft training programs, usually incorporate safety training but in a specific module and throughout the skills training.

5. In addition to the scorecard, contractors also receive a customized strengths and opportunities for improvement report that assists them with strengthening their workforce development program.

The article is explicit about the purpose of the CWDA and role of CWDA to improve workforce development efforts in the industry.

> *"The Contractors Workforce Development Assessment (CWDA) is a unique assessment tool that objectively measures the quality of a contractor's workforce development program and their commitment to it. The goal of the CWDA is to make workforce development a key criterion in both the prequalification and final selection of contractors and subcontractors."*

In addition, CURT is working with owners to beta-test contract language which requires contractors to provide construction training to craft employees.[5] Other CURT members have requirements for the provision of craft training which are informally incorporated into the bid process.

Although it is challenging to collect information on owners' requirements for safety and training for non-signatory employers, it is clear that a number of large industrial and utility firms have detailed and intrusive requirements for contractor safety performance and training and are moving forward with a process of implementing similar requirements for craft worker training.

Owners Using Signatory Employers:

Collective agreements provide a more extensive set of labor policies than those required by any owner using non-signatory contractors. When owners decide to use signatory contractors, rather than defer this decision to their general contractor or construction manager, they implicitly require the labor policies with respect to safety, training, work rules, wages and benefits which are incorporated into the collective agreement. The agreements establish terms and conditions such as show-up and break times; overtime, holiday and premium payments; apprentice to journeyman ratios; payments into welfare, pension, education and training and cooperative trust funds; employer supplied tools and clothing; access to water and changing facilities; union representation, jurisdiction and territory; drug testing; settlement of disputes; and the use of subcontractors. Several Ohio collective bargaining agreements can be found in **Exhibit VIII** to provide details of the workforce issues addressed in collective bargaining agreements.

Although the detailed content of collective agreements in construction vary by craft and by region, they almost universally include clauses addressing training, health care benefits and pension benefits. All three issues are handled by joint labor management trusts established under the Taft-Hartley Act of 1948. The trusts are governed by boards of trustees comprised of equal numbers of representatives of employers who are party to the collective agreement and union representatives. The trustees work together to establish the terms and level of benefits provided by the trusts and the contribution per craft work hour required by the trust. The health care trusts typically provide good

[5] Discussion with Daniel Groves, Director of Operations, August 14, 2015.

quality health care to union members and retirees. The pension trusts typically provide defined benefit plans and disability plans. Apprenticeship trusts are discussed further in the next paragraph.

The U.S. apprenticeship system is a unique training system which provides high level skill training mixing classroom and on-the-job training.[6] Apprenticeship training is provided either by an employer or through a joint labor-management trust and is overseen and certified by either the U.S. Department of Labor's Office of Apprenticeship Training or by a state counterpart. The curriculum and course of study, along with the structure of the apprenticeship program, must be approved by the U.S. DOL or its state counterparts. Individuals are indentured into an apprenticeship program for between one and six years. If they complete the course of study successfully, they are recognized as a journeyman in their craft. The intent of the apprenticeship program is to provide craft employees with the set of skills needed to work independently across the range of tasks required by their craft. Those achieving journeyman status earn family supporting incomes with health and pension benefits.

Unique among employment training programs in the United States, the apprenticeship system is almost entirely privately financed. The only public monies involved in the system are the operating funds for the Office of Apprenticeship Training (and its state counterparts). The costs of running the apprenticeship programs is paid for by employers or by hourly *per capita* payments specified in collective bargaining agreements. At the current time, construction accounts for 220,000 registered apprentices, 72 **%** of all apprentices registered in federally regulated apprenticeship programs[7]**.** Apprenticeship plays a central role in providing skills to the construction labor force assuring a high basic skill level for the union labor force. There is some carryover to the training and standards for nonunion contractors.[8]

While owners may require or decide on the use of signatory contractors for their construction, this decision is only transparent when the owner signs a project labor agreement (PLA) or community benefits agreement (CBA) with the local building trades council or signs on to national labor agreements such as the National Maintenance Agreement. A PLA or CBA is an agreement between an owner and labor organizations. The PLA incorporates the local collective agreements, but labor organizations may use the PLA to modify some terms of their existing local collective bargaining agreements in return for a guarantee that union labor will be used or, if non-union labor is used, the craft workers will be employed under collectively bargained terms and conditions. For example, almost all PLAs include provisions that ensure that work on the project will continue through local negotiations over wages, benefits and work rules. A PLA is negotiated prior to bidding on a project and is included in the bid specifications. Contractors are required to meet the terms of the PLA to be awarded the bid. The conditions of the PLA cover all craft employees working on a project.

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[6] Additional information on apprenticeship is available through the web site of the Office of Apprenticeship Training, http://doleta.gov/OA/apprenticeship.cfm. A history of apprenticeship and the language of the act establishing the Office is at http://doleta.gov/OA/history.cfm.

[7] Some states operate their own apprenticeship certification and regulation authorities and the apprentices registered in these programs are not included in the totals.

[8] There is broad agreement among owners that apprenticeship training produces a highly trained craft worker who meets the owners' needs; owners accept firm engagement in apprenticeship programs as meeting owners concerns with training.

The PLA assures owners priority access to skilled labor. The union craft labor force is comprised of journeymen and apprentices, individuals who have either completed the multi-year apprenticeship training system, or are currently enrolled and under the supervision of a journeyman craft worker. PLAs typically include provisions assuring that needed craft workers will be provided by the union within 48 hours of a call. These provisions implicitly give PLA projects, and the owners who sign PLAs, priority over other projects in the access to skilled labor.

I have authored three studies on the use of Project Labor Agreements: *Building Better*, *Project Labor Agreements*, and *The Effect of Project Labor Agreements on the Cost of School Construction in Massachusetts* **(Exhibit IX)**. My discussion of PLAs draws on research done for these studies. PLAs are used by a number of private owners to enhance the value of their construction investment. Private sector PLAs are used by firms including the Walt Disney Corporation, Toyota Motor Company, Harvard University, the nuclear construction industry, and Pfizer Pharmaceuticals for the construction and expansion of their facilities **(Exhibit X)**

As discussed in *Project Labor Agreements* and in *Building Better*, private sector PLAs may include provisions addressing the timely provision of skilled craft workers, allowing for the recruitment of craft workers from outside the region, banning job actions, providing effective mechanisms to resolve disputes on the job site, changing work practices to foster efficiency, harmonizing working time, improving project coordination, experimenting with changes to methods, and improving safety and health performance. These changes can be very detailed and can make changes in starting times, requirements pertaining to the scheduling of first and second shifts, changing where and how craft workers are recruited from among many other details. Owners use PLAs to make fundamental work rules that govern the relationship between craft workers and their employers.

PLAs have been used to establish safety practices above and beyond those established in the collective agreements (see pages 22 – 27, *Building Better*). These changes may require that contractors have formal safety and health programs and training for all of their employees and often allow the owner to establish safety and health rules that supersede those in the collective agreement or established by the construction employer. In some cases, the rules established by the owner specify the penalties for violations of safety and health rules.

While public and quasi-public owners have a long history of using PLAs and CBAs to establish extensive pre-apprenticeship training programs to bring individuals from disadvantaged areas or backgrounds into the construction industry (see *Building Better*, pages 15 to 22), this practice is migrating to the private sector with private sector owners using PLAs to establish pre-apprenticeship programs where these are needed to sustain the craft labor force. The use of PLAs by private sector owners to support craft training reflects increasing concerns by large private owners with the sustainability of a skilled craft labor force of sufficient size to meet current and future construction needs.

For example, the Southern Power Company and the Augusta Building Trades have established a pre-apprenticeship program to provide the training needed to enter apprenticeship programs associated with the construction of two nuclear reactors at Plant Vogtle, Georgia. This was done using Article VI of the Nuclear Agreement PLA, which includes extensive language on training and which allows the parties to establish training centers, use trainees and helpers, and requires the use of apprentices up to the ratio mandated in the local agreements if apprentices are

available. Shell Oil has committed to a pre-apprenticeship program when it moves forward with an ethylene cracking plant to be built in Beaver County, Pennsylvania.

While most PLAs are agreements between owners and labor organizations, some include employers. A notable example of this is the model PLA used by the Illowa labor management council.[9] This PLA is actively promoted by the joint labor management group and is an agreement between the owner, the contractors and labor organizations.

Conclusion:

Owners who intend to use construction for their own operations, particularly industrial owners and utilities, consider a broad set of criteria in determining which bid to accept. In this, their process is similar to the best value bid process used by some public bodies, but dissimilar to the low bid process as it has evolved in public construction. Private owners who build for their own use can use signatory or non-signatory contractors. Led by CURT, industrial and utility owners regularly specify and regulate contractor safety programs and performance and use specific criteria on employment policies and performance in order to qualify bidders and select the winning bids. Industrial and utility owners are increasingly following this same approach with respect to training requirements. For example, the CWDA intends to make contractor training transparent to owners and allow them to take contractor training programs into account in selecting bids.

With respect to the signatory sector, private owners not only sign PLAs which include the conditions provided in the local collective bargaining agreements, but use PLAs to alter specific terms and conditions of the collective agreements as they apply to the owner's projects. These agreements can and have been used to create and alter safety programs and to extend existing apprenticeship programs, mainly through the creation of pre-apprenticeship programs.

Based on my knowledge of the industry, private sector owners who have construction needs similar to the Greater Cincinnati Water Works consider factors other than cost in assessing bids, including safety performance, safety training and increasingly, training for craft employees. Private sector owners who undertake construction projects for their own use are concerned with factors beyond the bid price for a project. This reflects a purpose of minimizing the long term costs of a construction project where quality, timeliness, safety and predictability are as important as bid price in determining the capital and operating costs of a construction project. In adopting the ordinance, the Greater Cincinnati Water Works acted in a manner similar to other large owners who are building for their own purposes.

[9] See http://www.illowaimpact.org/ for information about the IMPACT agreement, the ILLOWA joint PLA.